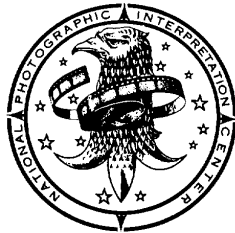


Basic Imagery Interpretation Report



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TYURATAM MISSILE TEST CENTER

25X1A

MISSILE RANGES--STRATEGIC SSM & SPACE FACILITIES

USSR

FEBRUARY 1969

DECLASS REVIEW by NIMA/DOD

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Feb. 1969

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INSTALLATION OR ACTIVITY NAME		COUNTRY
Tyuratam Missile Test Center		UR
UTM COORDINATES	GEOGRAPHIC COORDINATES	
NA	45-56-40N 063-28-00E	
MAP REFERENCE		
SAC. USATC 200, Sheets M0246-13HL and M0246-14HL, 5th ed, Aug 65, scale 1:200,000 (SECRET)		
NEGATION DATE (if required)		
NA		

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ABSTRACT

This report provides a short chronology and description of the launch facilities and associated areas at the Tyuratam Missile Test Center. A map shows the layout of the Test Center, and a table provides additional chronological information, coordinates, and other significant data on the major facilities at the Center. Information in this report is current as of [REDACTED]

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INTRODUCTION

Chronology

When first observed, on TALENT photography in [REDACTED] the Tyuratam Missile Test Center (TTMTC) consisted of one launch area (Launch Area A), a propellant area, an airstrip, two communication facilities, and a support base. Closely following its discovery on photography, Launch Area A was used to test the SS-6 ICBM booster and to launch Sputnik I, the world's first artificial satellite.

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For the next several years, the rangehead expanded at a constant pace as prototype sites were constructed and research was conducted on three separate ICBM systems, the SS-6, SS-7, and SS-8. During this same period, the Soviets continued to develop reliable space vehicles at Complex A, using the SS-6 as the basic booster.

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[REDACTED] the Soviets began expanding their space launch capability by commencing construction on two large launch facilities, designated Launch Area G3-G4 and Launch Complex J.

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Beginning [REDACTED] the rangehead underwent a period of rapid expansion in terms of total launchers added, and over a period of approximately three years, 29 launch sites were constructed. Although the number of launchers increased significantly during this time, only two ICBM systems, the SS-9 and SS-11, were under development at the TTMTC. It is interesting to note that during this period of increased activity, six of the sites that were started have apparently been abandoned or have had their priorities severely curtailed.

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[REDACTED] construction has been started on only three new ICBM launch sites. The major effort at the rangehead has been concentrated at Complex J, which will probably support the Soviets' manned lunar exploration program.

Environment

The TTMTC occupies an area of approximately 1,200 square nautical miles (nm) in the southern USSR (Figure 1), approximately 100 nm east of the Aral Sea and just north of the Syr Darya (River). Rail, specifically the Aralsk-Tashkent railroad, is the primary means of surface transportation from outside areas to the Center. Apparently there is little or no dependence on water or road transportation, as no significant river traffic has been observed on the Syr Darya in the vicinity of the TTMTC, and the only roads serving the TTMTC from outside are gravel surfaced, poorly constructed, and irregular in alignment. Air transportation is handled at the two airfields near the Main Support Base.

The Center is situated in a generally flat desert area with an average elevation of about 330 feet above sea level. The vegetation is sparse except along the banks of the Syr Darya and consists of desert forms, principally scattered low shrubs and short grasses. The climate of the TTMTC is dry, with hot summers and cold winters. Visibility is excellent and cloud cover is at a minimum throughout the year. Precipitation is very low, ranging from one to three inches per year, with the greatest amount falling in the spring.

- 1 -

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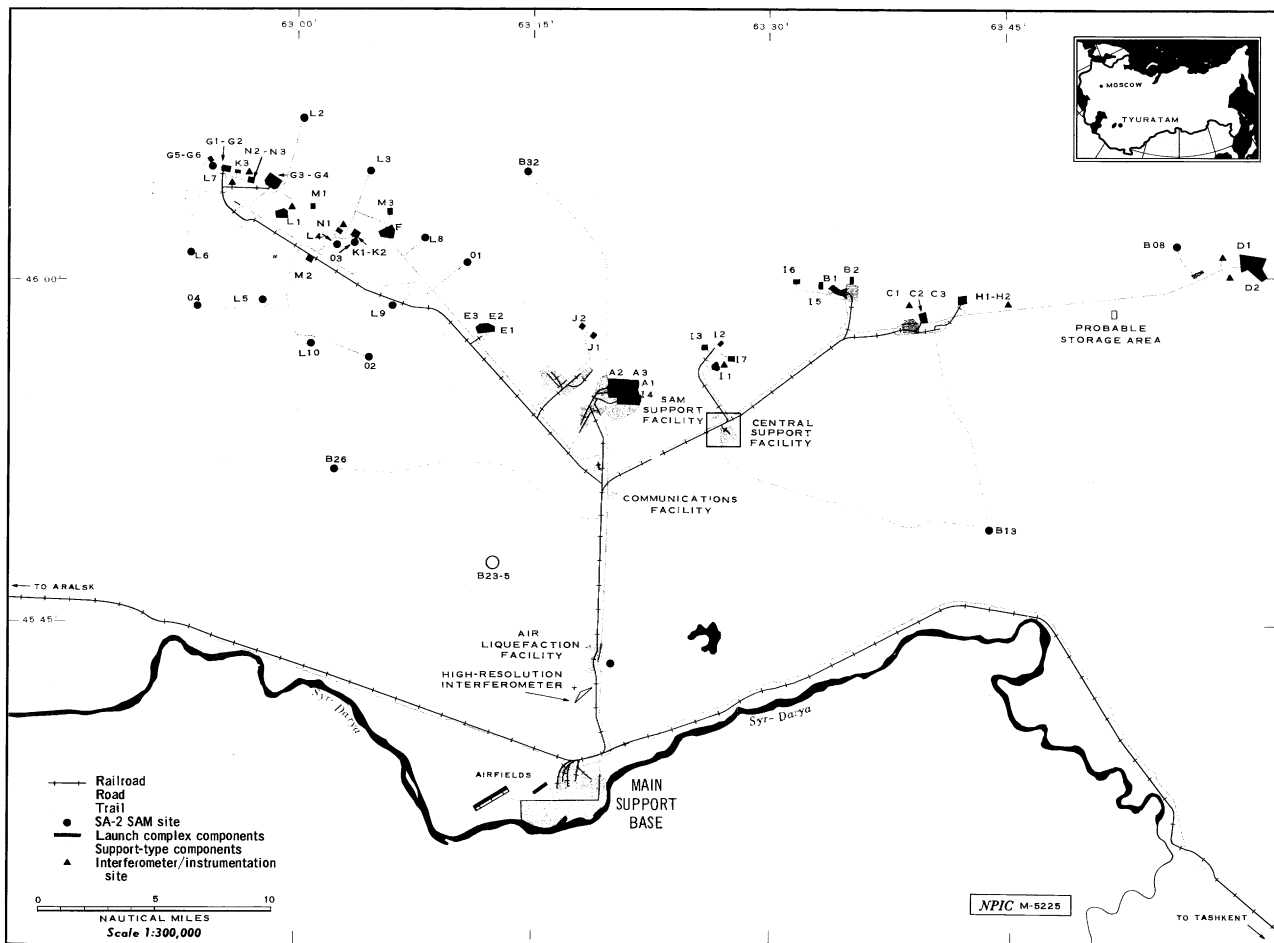


FIGURE 1. LAYOUT OF TYURATAM MISSILE TEST CENTER.

BASIC DESCRIPTION

Of the 61 launchers at the TTMTTC, 21 are soft launchers of a variety of configurations and 40 are hardened silo launchers.

The following paragraphs are descriptions of the facilities present at each of the complexes and the Main Support Base at the TTMTTC. Where applicable, references are made to other NPIC reports in which additional detailed data may be obtained.

Launch Complex A

25X1D Launch Complex A, 1/ situated in the approximate center of the rangehead and about 17 nm north of the Main Support Base, consists of four main areas: Launch Area A containing Launch Pads A1, A2, and A3 and associated electronics facilities; a missile check-out and assembly facility; a complex support facility; and instrumentation and tracking and ancillary facilities. Launch Pad A1, the original launch pad at the TTMTTC, is the facility used for manned space launchings and has been associated with the SS-6 missile system in both a space and an ICBM role. Launch Pad A2, which was completed in [REDACTED] 25X1D [REDACTED] was originally associated with the early development of the SS-8 missile system. However, since modification in [REDACTED] and the addition of Launch Pad A3 in 25X1D [REDACTED] no missile system has been associated with either pad.

Launch Complex B

25X1D Launch Complex B 2/ is approximately 24 nm northeast of the Main Support Base and 12 nm east-northeast of Launch Complex A. Complex B consists of two launch pads, B1 and B2, and a complex support facility. Launch Pad B1, the prototype for the deployed ICBM version of the SS-6, was completed in [REDACTED] 25X1D The pad has remained active and probably has been used for many of the Soviet reconnaissance satellite launchings. Launch Pad B2, complete in [REDACTED] is possibly associated with the SL-8 launch vehicle, which employs the SS-5 as a booster.

Launch Complex C

25X1D Launch Complex C 3/ is approximately 25 nm northeast of the Main Support Base and 15 nm east of Launch Complex A. Complex C consists of Launch Area C, which contains three launch pads designated C1, C2, and C3, and a complex support facility. Launch Pads C1 and C2, complete in [REDACTED] 25X1D and Launch Pad C3, complete in [REDACTED] 25X1D [REDACTED] were the prototypes for the Type IIA, IIB, and IID deployed ICBM soft sites, which utilize the SS-7 ICBM. Complex C shares a support facility with Launch Complex H.

Launch Complex D

25X1D Launch Complex D 4/ is at the eastern end of the rangehead, approximately 36 nm northeast of the Main Support Base. The major elements of the complex include two Type IIIA hardened launch sites, designated D1 and D2, for the SS-7 missile and a complex support facility. Launch Site D1, complete in [REDACTED] 25X1D and Launch Site D2, complete in [REDACTED] were the prototypes for the first Soviet hardened launch sites. During [REDACTED] 25X1D Launch Site D2 was subjected to a large high-explosives detonation in what appears to have been a vulnerability test.

Launch Complex E

25X1D Launch Complex E 5/ is approximately 19 nm northwest of the Main Support Base and 7 nm northwest of Launch Complex A. The launch area consists of three rail-served launch pads, designated E1, E2, and E3, all of which were completed in [REDACTED] 25X1D Launch Area E served as the R&D facility and a prototype area for the soft version of the deployed SS-8 ICBM. Complex E shares a support facility with Launch Complex F.

Launch Complex F

25X1D Launch Complex F 6/ is approximately 25 nm north-northwest of the Main Support Base and 12 nm northwest of Launch Complex A. The launch facility is the prototype of the deployed Type IIB hardened launch sites associated with the SS-8 missile system and is considered to have been complete in [REDACTED]

Launch Complex G

25X9 Launch Complex G 7-10/ is situated at the west end of the Tyuratam rangehead. The facilities at this complex include two rail-served soft launch areas (Launch Areas G1-G2 and G3-G4), a road-served soft launch area (Launch Area G5-G6), a support facility, a 25X1B

██████████ a revetted storage area, ██████████ Launch Area G1-G2, which was considered to be complete in ██████████ was probably the facility from which a limited number of SS-10 missile launches were conducted. Modification of the launch area, which was started in ██████████ resulted in the 25X1D
25X1D construction of two new launch pads, designated G1-A and G2-A. These two new pads are probably associated with a variant of the SS-9 missile system. The two original launch pads were abandoned, and propellant transfer points were constructed in the vicinity of their former locations.

25X1D Launch Area G3-G4, which was considered complete in ██████████ consists of a double-fenced launch area containing two rail-served concrete launch pads associated with the SL-9 space booster, which was used to launch the Proton satellite. Modification of the launch area was begun in ██████████ and completed by ██████████ providing a 25X1D
25X1D new probable fuel and oxidizer storage area and several new buildings. Since this modification, the SL-12 space booster has been associated with this launch area.

25X1D Launch Area G5-G6, which consists of a double-fenced launch area containing two road-served concrete launch pads, is one of the facilities used in R&D for the SS-11 missile system. This launch area was considered complete in ██████████ 25X1D

Launch Complex H

25X1D Launch Complex H 11/ is approximately 27 nm northeast of the Main Support Base and 16 nm east of Launch Complex A. The complex consists of two rail- and road-served launch pads, designated H1 and H2, both of which were considered complete in ██████████ 25X1D
██████████ The complex was used in R&D for the SS-9 missile system. Complex H shares a support facility with Launch Complex C.

Launch Group I

Launch Group I 12-14/ is in the east-central portion of the Tyuratam rangehead, between Launch Complexes A and B. Group I consists of seven separate launch sites, of which three (Launch Sites I1, I4, and I5) are Type IIIC sites, three (Launch Sites I2, I3, and I6) are of an undetermined type of single-silo site and one (I7) contains three silos each closely resembling Type IIIC launch silos. Launch Group I has no support facility of its own.

Launch Sites I1, I4, and I5, all of which were considered complete in ██████████ were 25X1D
probably the prototypes of deployed Type IIIC sites for the SS-9 ICBM. Launch Site I1 has an on-site L-shaped electronic facility and a control bunker which apparently serves all three launch sites.

25X1D Launch Sites I2, I3, and I6, all of which consist of single silos of an undetermined type, are interconnected by buried cable. Initial construction techniques (excavation and silo coring) suggested that all three of these sites would be Type IIIC, but later construction at Sites I2 and I3 followed different techniques. Launch Site I2, started in ██████████ 25X1D
25X1D and Launch Site I3, started in ██████████ each have a circular silo head-works approximately ██████████ in diameter and a building adjacent to it within the silo excavation. At Launch Site I3, in an additional excavation just northwest of the main silo excavation, a 50-foot-diameter coring was dug. A circular structure approximately 25X1D
25X1D in diameter was later constructed over this coring. This structure and an extended fenceline at the site suggest that I3 will be the control site for the three launch silos. Launch Site I6 has not progressed beyond the coring and excavation stage of construction, and all three sites have remained static since ██████████ 25X1D

Launch Site I7 is the most recent site under construction in the I group. The launch site consists of three silos which are served by a common access road within a double-fenced area. The three silos are equally separated along a north-south line and are designated the north, south, and center silos. The north and south silos are now considered complete, and the center silo is in a late stage of construction. With a few exceptions, construction techniques closely parallel those observed at Type IIIC sites.

Launch Complex J

Launch Complex J, 15/ the largest complex in the Tyuratam rangehead, is situated approximately 2 nm northwest of Launch Complex A. The major components of the complex include a launch area containing two rail-served launch pads (Launch Pads J1 and J2), a missile assembly and checkout facility, a spacecraft assembly and checkout facility, and a construction support facility. Construction of the launch area began in [REDACTED] and will probably be completed in [REDACTED]. From the size of the launch pads and associated equipment it is evident that the complex will be used for launchings of large space boosters. In [REDACTED] and again in [REDACTED] a 335-foot missile was observed on Launch Pad J1.

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Launch Complex K

Launch Group K 16, 17/ consists of two hardened launch sites. Launch Site K1-K2 is approximately 5 nm east-southeast of Launch Complex G, and Launch Site K3 is just east of Launch Area G1-G2. Launch Site K1-K2 contains two Type IIIC silos -- K1, which was complete in [REDACTED] and K2, which was complete in [REDACTED]. Launch Site K3, which contains a Type IIIC silo with associated control and electronic facilities, was also considered complete in [REDACTED]. These sites have been associated with the SS-9 ICBM and possibly the SS-X6 missile. Track activity indicates that Launch Site K1-K2 utilizes the support facility shared by Launch Complexes E and F. Site K3 appears to use the support facility at Launch Complex G.

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Launch Group L

Launch Group L 18/ is comprised of 10 Type IIID hardened launch sites, dispersed generally in the area between Launch Complexes F and G. The launch group configuration is similar to that seen at many of the deployed SS-11 complexes, with six sites (L2-L7) arranged in a circular pattern around a central site (L1) and three additional sites (L8-L10) forming a segment of an outer circle. Launch Site L1 is the control site for the group. The launch group was considered complete in the first half of [REDACTED].

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Launch Group M

Launch Group M, 19/ consisting of three single-silo launch sites in a midstage of construction, is situated in the western part of the rangehead, between Launch Complexes F and G. Two of the sites, M1 and M3, are on the northeast side of the main road serving the west end of the rangehead, and the third site, M2, is on the southwest side of the main road. The silos are an undetermined type of single silo. Each contains a rectangular silo headworks within an excavation. Launch Site M1 has an additional excavation northwest of the headworks which contains a 50-foot-diameter circular coring. Construction within Launch Group M has remained static since [REDACTED].

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Launch Group N

Launch Group N 20, 21/ consists of two hardened launch sites -- Launch Site N1, which is approximately 0.7 nm west-northwest of Launch Site K1-K2, and Launch Site N2-N3, which is approximately midway between Launch Areas G1-G2 and G3-G4. The launch group is associated with the SS-11 ICBM. Launch Site N1, which was considered complete in [REDACTED] contains a Type IIID silo with an associated control and electronic facility. Launch Site N2-N3, considered complete in [REDACTED] contains two road-served silos spaced [REDACTED] apart.

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Launch Group O

Launch Group O, which is dispersed in the vicinity of Launch Group L, contains the most recently started silo construction activity at the Tyuratam rangehead. It consists of three launch sites, designated Sites 01, 02, and 04, and what appears to be a launch control facility, designated Site 03. Each of the three launch sites contains a Type IIIC launch silo. Construction techniques and silo components at these sites appear to be nearly identical to those at a normal Type IIIC launch silo, the major difference being that no two

of the three launch sites have a common site orientation. Site 04 consists of what appeared to be a typical IIC earth-mounded control bunker without a collocated launch silo.

Main Support Base

Most of the logistical support for the TTMTTC is provided by the Main Support Base, which is situated approximately 17 nm south of Launch Complex A, between the Aralsk-Tashkent railroad and the Syr Darya and near the small railroad town of Tyuratam.

The major components of the Support Base include an administration and housing area, a railhead and storage area, water treatment facilities, a heat- and power-plant, an air liquefaction facility, several communications facilities, and two airfields.

In addition to providing support for the dynamic missile development program at the TTMTTC, the Main Support Base has evolved into a modern city. The presence of numerous schools, commercial facilities, theaters, and modern apartment buildings indicates permanence of personnel assigned to the TTMTTC as well as official regard for their physical comforts and cultural needs. The Main Support Base and its surrounding urban area, referred to by the Soviets as Star City, have undergone constant expansion since the beginning of the TTMTTC's development, and will probably continue to expand.

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25X1D

MAPS OR CHARTS

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21. NPIC. TCS-80026/66, Tyuratam Missile Test Center, Launch Complex G, Launch Area G8-G9,^{***} Jan 66 (TOP SECRET RUFF)

REQUIREMENT

COMIREX 157-69

NPIC Project 210263

^{*}Launch Area G7 is the former designator of Launch Site K3.

^{**}Launch Area K3 is the former designator of Launch Site N1.

^{***}Launch Area G8-G9 is the former designator of Launch Site N2-N3.

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